ADEQ comments in black font below.
Input from Melinda McCoy, EPA Region 6, provided in blue font below.

Tyson Grannis WER

5.1 Toxicity Testing Methodology

The first bullet point states that "WER-1 did not meet this condition..." Additional elaboration is needed.

I agree with this comment. I assume what is meant is that all of the treatments (except for the control) in the July 2011 lab water test showed >50% mortality. As explained in the WER final report, this shouldn't be a problem since the SMAV was used in the WER calculations rather than the lab water LC50.

7.3 Water Effect Ration Development

The first sentence of the paragraph under Equation 2 states "The final WER (fWER) for use in recommending amendment of the copper criteria in the Arkansas WQS..."
This reads a like a change to Reg 2, not a change to how WQS are implemented in the permit.

Technically, this statement in the Tyson (Grannis) WER final report is accurate in that this WER study will result in site-specific criteria and will be a change to the WQS (if adopted by the State/approved by EPA). Please take a look at Appendix E of the TX WQS for a good example of how Texas addresses the applicability of site-specific criteria based on WERs to surface waters. Generally, WERs in Texas result in site-specific criteria that are applicable from the permitted outfall to the edge of the outfall's mixing zone. There a few instances where waterbody WERs were developed in Texas and in those few cases the site-specific criteria resulting from the WER study do apply to the entire waterbody segment (for example, Fort Phantom Hill lake). We can discuss this issue further if you'd like (e.g., via conference call).
Link to TX WQS:
http://www.tceq.texas.gov/assets/public/waterquality/standards/TSWQS2010/TSWQS2010_rule.pdf

The third sentence of the paragraph under Equation 2 states "Arkansas has an established correction factor of 0.960 for dissolved metals" Regulation 2.508 states that the conversion factor for dissolved copper is 0.960.

I agree with this comment.

Formulas and results reported, actual WER calculations not provided.

I agree with this comment, but do note that it appears the WER calculations were done correctly. (Except note my comments about the need to verify hardness and alkalinity levels in the September 2011 tests.)

Appendix C

Data sheet labeled Control No. 149687-1, Page 2 of 8

Half of the numbers presented in this summary do not match the numbers presented in Table 11 of page 12.

I agree with this comment, but also note that it just appears that the lab (American Interplex) normalized to a different hardness value than GBMac. In the end, as long as all the values (lab water LC50, SMAV, and site water LC50) are normalized to the same "standard" hardness value (regardless of what that "standard" hardness value is), then all should be okay with the WER calculations. (Note – it does matter, however, whether the "sample" hardness values input into the equation are accurate/verified…see my comments about September 2011 tests.)

Data sheet labeled: July 26, 2011, Control No. 149089, page 2 of 11
Sample date and time not reported

I agree with this comment.

Qualifier of "Analytical holding time exceeded regulatory requirements"

I agree with this comment. Note that the "H" qualifier appears to only apply to the pH measurement, which has a very short holding time (15 mins) according to 40 CFR 136.

Data sheet labeled July 26, 2011, Control No. 149090, Page 2 of 4
Does Client Sample ID FB = field blank?

I agree with this comment, and assumed this meant "field blank" as well.

Data sheet labeled: September 23, 2011, Control No. 150847, page 2 of 7
Sample date and time not reported

I agree with this comment.

Data sheet labeled: September 23, 2011, Control No. 150845, page 2 of 6
Qualifier of "Analytical holding time exceeded regulatory requirements"

I agree with this comment. Note that the "H" qualifier appears to only apply to the pH measurement, which has a very short holding time (15 mins) according to 40 CFR 136.

Case narrative "The matrix spike recovery for Copper failed to meet acceptance criteria due to matrix interference"

I agree with this comment. More elaboration in the final report on the significance of this would be helpful.